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	U	I	Document ID	Issue Date	Pages	Title	Current OR	Current XRef
1	<input type="checkbox"/>	<input type="checkbox"/>	US 6782403 B1	20040824	90	Inter-application data transmitting system and	707/203	707/10; 707/104.1;
2	<input type="checkbox"/>	<input type="checkbox"/>	US 6606107 B2	20030812	36	Printing system, thermal printer, printer control	347/193	400/120.13
3	<input type="checkbox"/>	<input type="checkbox"/>	US 6553389 B1	20030422	10	Resource availability determination mechanism for	707/202	707/10; 707/200;
4	<input type="checkbox"/>	<input type="checkbox"/>	US 6442689 B1	20020827	27	Apparatus and method for demonstrating and confirming	713/158	
5	<input type="checkbox"/>	<input type="checkbox"/>	US 6424257 B1	20020723	6	Bidirectional communication between control element and	340/506	
6	<input type="checkbox"/>	<input type="checkbox"/>	US 6347372 B1	20020212	56	Multiprocessor control system, and a boot device	713/2	709/222
7	<input type="checkbox"/>	<input type="checkbox"/>	US 6105084 A	20000815	17	Priority-based access control arrangement by	710/40	710/107; 710/240;
8	<input type="checkbox"/>	<input type="checkbox"/>	US 6058111 A	20000502	17	System and method for providing a droppable	370/360	370/462
9	<input type="checkbox"/>	<input type="checkbox"/>	US 6018726 A	20000125	17	Method of billing for information services in	705/412	379/106.03; 379/130;
10	<input type="checkbox"/>	<input type="checkbox"/>	US 5907688 A	19990525	13	Smart arbitration for non-symmetric data streams	710/107	710/113
11	<input type="checkbox"/>	<input type="checkbox"/>	US 5896376 A	19990420	14	Optimal use of logical channels within a mobile	370/348	340/825.51; 370/332;

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**Results Key:****JNL** = Journal or Magazine **CNF** = Conference **STD** = Standard**1 The DLR static multisensor short range radar for surveillance of ground traffic on airports**

*Bethke, K.-H.; Rode, B.; Schneider, M.; Schroth, A.; Becker, P.; Kufner, M.;*  
 Radar 97 (Conf. Publ. No. 449) , 14-16 Oct. 1997  
 Pages:11 - 15

[\[Abstract\]](#) [\[PDF Full-Text \(556 KB\)\]](#) **IEEE CNF**
**2 The DLR near-range experimental radar system for airport surface movement guidance and control**

*Schroth, A.; Bethke, K.-H.; Felhauer, T.; Rode, B.; Schneider, M.;*  
 Radar Conference, 1995., Record of the IEEE 1995 International , 8-11 May 1  
 Pages:505 - 510

[\[Abstract\]](#) [\[PDF Full-Text \(548 KB\)\]](#) **IEEE CNF**

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## The DLR static multisensor short range radar for surveillance of ground traffic on airports

Bethke, K.-H. Rode, B. Schneider, M. Schroth, A. Becker, P. Kufner, M.  
 German Aerosp. Res. Establ.

*This paper appears in: Radar 97 (Conf. Publ. No. 449)*

Meeting Date: 10/14/1997 - 10/16/1997

Publication Date: 14-16 Oct. 1997

Location: Edinburgh UK

On page(s): 11 - 15

Reference Cited: 4

Number of Pages: xxxvii+886

Inspection Accession Number: 5765959

### Abstract:

The modular structured DLR near-range radar network (NRN) has been designed as a noncooperative sensor component for integration into the multisensor fusion and movement guidance and control system (SMGCS) on airports. The functional characteristics and the structure of a single radar station are discussed. Due to sophisticated processing echo signals of expanded pulse targets with a backscattered cross section of 1 m<sup>2</sup> can be detected at a distance of 1 km using fixed, nonrotating antennas having broad sector characteristics in the azimuth and low power transmitters. From the complex valued echo profiles, measured by the four stations of an NRN, the so-called rolling **status** for a **plurality** of targets including target classification is derived. The present **status** of the development are presented and the remaining tasks are sketched.

### Index Terms:

1 km DLR static multisensor short range radar airports azimuth backscatter backscattered cross section echo signals ground support systems ground traffic surveillance low power transmitters multisensor fusion noncooperative sensor nonrotating antennas pulse targets radar applications radar cross-sections radar detection radar signal processing radar station target recognition rolling status search radar sensor fusion surface movement guidance and control system target classification 1 km DLR static multisensor short range radar azimuth backscatter backscattering cross section echo signals ground support systems traffic surveillance low power transmitters multisensor fusion noncooperative sensor antennas pulse targets radar applications radar cross-sections radar detection radar processing radar station radar target recognition rolling status search radar sensor fusion surface movement guidance and control system target classification

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L3: Entry 1 of 12

File: PGPB

Aug 7, 2003

PGPUB-DOCUMENT-NUMBER: 20030149819  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20030149819 A1

TITLE: Method and apparatus for ascertaining the status of multiple devices  
simultaneously over a data bus

PUBLICATION-DATE: August 7, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Smith, Robert B.	Loveland	CO	US	
Cross, Ted	Fort Collins	CO	US	

APPL-NO: 10/ 068029 [\[PALM\]](#)  
DATE FILED: February 6, 2002

INT-CL: [07] [G06 F 13/00](#)

US-CL-PUBLISHED: 710/100  
US-CL-CURRENT: [710/100](#)

REPRESENTATIVE-FIGURES: 1

## ABSTRACT:

Techniques are provided for simultaneously ascertaining the status of a plurality of devices coupled to a data bus. A master device transmits at least one status request message over the data bus to a plurality of slave devices. In response, the plurality of slave devices transmit to the master device a status indicator message including a plurality of status indicators indicating statuses of the plurality of slave devices. The master device receives the status indicator message and ascertains the status of at least some of the plurality of slave devices by examining the status indicators. The status request message and/or status indicator message may be a message defined according to a protocol associated with the data bus. The data bus may, for example, be a serial data bus such as an I.sup.2C bus.

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L3: Entry 9 of 12

File: USPT

Mar 17, 1981

DOCUMENT-IDENTIFIER: US 4257095 A

TITLE: System bus arbitration, circuitry and methodology

Brief Summary Text (5):

The typical prior art microprocessor system was comprised of a microprocessor coupled to a control, address and data bus to which was coupled an addressable memory in an input/output device. The single microprocessor controlled all activity on the control, address and data bus and was the single master of the memory and input/output device. With the advent of accelerating price reductions in microprocessors the memory and input/output components became the most expensive components of the digital system. Therefore, higher order digital systems with greater capacities and complexities could be organized by coupling multiple central processors to a single control, address and data bus which shared common memory and input/output peripherals. However, in order to share the memory and input/output peripherals some means was required to resolve priority conflicts between among the multiple central processors. This entailed the addition of a priority resolving circuit which was coupled to the multiple central processing units by an arbitrating control bus having a plurality of bus request and status signals. A typical priority resolving circuit contained the entire logic for arbitration of the control, address and data bus among the multiple central processing units. Generally, the concentration of the arbitration circuit within a single priority resolving module entailed limitations both upon the practical complexity of the arbitration scheme as well as the number of central processing units which could be included within the system.

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L3: Entry 9 of 12

File: USPT

Mar 17, 1981

US-PAT-NO: 4257095

DOCUMENT-IDENTIFIER: US 4257095 A

TITLE: System bus arbitration, circuitry and methodology

DATE-ISSUED: March 17, 1981

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nadir; James	Sunnyvale	CA		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Intel Corporation	Santa Clara	CA			02

APPL-NO: 05/ 921083 [\[PALM\]](#)

DATE FILED: June 30, 1978

INT-CL: [] G06F 3/00

US-CL-ISSUED: 364/200

US-CL-CURRENT: [710/119](#)

FIELD-OF-SEARCH: 364/200, 364/900, 364/2MSFile, 364/9MSFile

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

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	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	<a href="#">3825902</a>	July 1974	Brown et al.	364/200
<input type="checkbox"/>	<a href="#">3983540</a>	September 1976	Keller et al.	364/200
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<input type="checkbox"/>	<a href="#">4181974</a>	January 1980	Lemay et al.	364/900

ART-UNIT: 237

PRIMARY-EXAMINER: Thomas; James D.

ASSISTANT-EXAMINER: Heckler; Thomas M.

ATTY-AGENT-FIRM: Blakely, Sokoloff, Taylor & Zafman

ABSTRACT:

Arbitration of a system bus shared by a plurality of digital processors, input and output devices and memories may be shared in an intelligent and efficient manner by using an arbitration method and an arbiter and bus controller circuit which allows a lower priority processor or user to access the system bus during those times in which a higher priority user of the system bus is not actively accessing the system bus. Thus, without altering the priority assignments among multiple users of a system bus, lower priority users requesting access may be allowed selective and limited access to the system bus during those times in which a higher priority user is in either an idle or halt state or is engaged in utilizing another bus, such as an input/output bus or resident bus.

21 Claims, 20 Drawing figures

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L6: Entry 12 of 15

File: USPT

Dec 3, 1991

DOCUMENT-IDENTIFIER: US 5070470 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Methods for handling calendar information in a data processing system

Abstract Text (1):

The present invention relates to methods of automatically generating a data stream in which a calendar owner can request the status of a plurality of calendars maintained by an electronic calendaring system. A first data structure is generated by the system in response to the entry of calendar information by the calendar owner. The first data structure includes a plurality of predetermined fields for storing the calendar information. Each of the plurality of fields are compared to equivalent fields in identified ones of the plurality of calendars. A second data structure is then generated for each of the identified ones of the plurality of calendars which sets forth the status of calendaring an event thereon. The second data structure is transmitted to the calendar owner to confirm the status of each of the identified ones of the plurality of calendars.

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L6: Entry 6 of 15

File: USPT

Aug 31, 2004

DOCUMENT-IDENTIFIER: US 6785012 B2

TITLE: Printing apparatus, system having the same, and method of controlling printing apparatus

Abstract Text (1):

An information processing apparatus serves as a host unit for communicating with a plurality of printing apparatuses via a network. Each of the plurality of printing apparatuses is in a print-ready state or a second power state, in which power consumption is less than that of the print-ready state. The information processing apparatus includes a request unit adapted to request status information of each of the plurality of printing apparatuses, a reception unit adapted to receive the status information of each of the plurality of printing apparatuses requested by the request unit, an identifying unit for identifying each of the plurality of printing apparatuses as being either in the print-ready state or the second power state, based on the status information received by the reception unit, and a user interface unit adapted to control a display of a plurality of printer states. The display indicates the state of each of the plurality of printing apparatuses on a same window, so as to indicate each printing apparatus as being in the print-ready state or in the second power state, based on a respective identification result of the identifying unit.

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L6: Entry 6 of 15

File: USPT

Aug 31, 2004

US-PAT-NO: 6785012

DOCUMENT-IDENTIFIER: US 6785012 B2

TITLE: Printing apparatus, system having the same, and method of controlling printing apparatus

DATE-ISSUED: August 31, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Okazawa; Takashi	Yokohama			JP

## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Canon Kabushiki Kaisha	Tokyo			JP	03

APPL-NO: 10/ 176682 [PALM]

DATE FILED: June 24, 2002

## PARENT-CASE:

This application is a division of application Ser. No. 09/293,773, filed on Apr. 19, 1999, which is a division of application Ser. No. 08/958,740, filed on Oct. 27, 1997, now U.S. Pat. No. 5,937,148, which is a continuation of application Ser. No. 08/354,116, filed on Dec. 6, 1994, now abandoned.

## FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	3-309141	December 9, 1993
JP	6-236231	September 30, 1994
JP	6-271509	November 4, 1994

INT-CL: [07] G06 F 15/00

US-CL-ISSUED: 358/1.14; 358/1.13, 358/1.1, 358/1.9, 358/1.15, 358/1.17

US-CL-CURRENT: 358/1.14; 358/1.1, 358/1.13, 358/1.15, 358/1.17, 358/1.9

FIELD-OF-SEARCH: 358/1.13, 358/1.14, 358/1.1, 358/1.15, 358/1.19, 358/1.17

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

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<input type="checkbox"/>	<u>5727135</u>	March 1998	Webb et al.	395/1.14
<input type="checkbox"/>	<u>5935262</u>	August 1999	Barrett et al.	714/46
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<input type="checkbox"/>	<u>6081663</u>	June 2000	Takahashi et al.	347/5
<input type="checkbox"/>	<u>6172762</u>	January 2001	Uchiyama	395/1.14
<input type="checkbox"/>	<u>6459496</u>	October 2002	Okazawa	358/1.14

## FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
0526189	February 1993	EP	
0 526 189	February 1993	EP	

ART-UNIT: 2622

PRIMARY-EXAMINER: Lamb; Twyler

ATTY-AGENT-FIRM: Fitzpatrick, Cella, Harper &amp; Scinto

## ABSTRACT:

An information processing apparatus serves as a host unit for communicating with a plurality of printing apparatuses via a network. Each of the plurality of printing apparatuses is in a print-ready state or a second power state, in which power consumption is less than that of the print-ready state. The information processing apparatus includes a request unit adapted to request status information of each of the plurality of printing apparatuses, a reception unit adapted to receive the

status information of each of the plurality of printing apparatuses requested by the request unit, an identifying unit for identifying each of the plurality of printing apparatuses as being either in the print-ready state or the second power state, based on the status information received by the reception unit, and a user interface unit adapted to control a display of a plurality of printer states. The display indicates the state of each of the plurality of printing apparatuses on a same window, so as to indicate each printing apparatus as being in the print-ready state or in the second power state, based on a respective identification result of the identifying unit.

24 Claims, 9 Drawing figures

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File: PGPB

Aug 19, 2004

PGPUB-DOCUMENT-NUMBER: 20040162884

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040162884 A1

TITLE: Home network system and method of providing operation history for same

PUBLICATION-DATE: August 19, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Jeon, Young Jae	Daegu		KR	

US-CL-CURRENT: [709/208](#); [709/224](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KIMC	Draw. De
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☐ 2. Document ID: US 20030212785 A1

L3: Entry 2 of 9

File: PGPB

Nov 13, 2003

PGPUB-DOCUMENT-NUMBER: 20030212785

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030212785 A1

TITLE: System and method for isolating faulty connections in a storage area network

PUBLICATION-DATE: November 13, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Jibbe, Mahmoud K.	Wichita	KS	US	

US-CL-CURRENT: [709/224](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KIMC	Draw. De
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☐ 3. Document ID: US 20030149819 A1

L3: Entry 3 of 9

File: PGPB

Aug 7, 2003

PGPUB-DOCUMENT-NUMBER: 20030149819  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20030149819 A1

TITLE: Method and apparatus for ascertaining the status of multiple devices  
simultaneously over a data bus

PUBLICATION-DATE: August 7, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Smith, Robert B.	Loveland	CO	US	
Cross, Ted	Fort Collins	CO	US	

US-CL-CURRENT: 710/100

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 4. Document ID: US 20030097496 A1

L3: Entry 4 of 9

File: PGPB

May 22, 2003

PGPUB-DOCUMENT-NUMBER: 20030097496  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20030097496 A1

TITLE: Method and system for obtaining the status of a device

PUBLICATION-DATE: May 22, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Gabryjelski, Henry P.	Seattle	WA	US	

US-CL-CURRENT: 710/15

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 5. Document ID: US 6434626 B1

L3: Entry 5 of 9

File: USPT

Aug 13, 2002

US-PAT-NO: 6434626  
DOCUMENT-IDENTIFIER: US 6434626 B1

TITLE: Method and apparatus for low latency network performance monitoring

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 6. Document ID: US 6105084 A

L3: Entry 6 of 9

File: USPT

Aug 15, 2000

US-PAT-NO: 6105084

DOCUMENT-IDENTIFIER: US 6105084 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Priority-based access control arrangement by assigning first and second own priorities to each of units

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 7. Document ID: US 5987234 A

L3: Entry 7 of 9

File: USPT

Nov 16, 1999

US-PAT-NO: 5987234

DOCUMENT-IDENTIFIER: US 5987234 A

TITLE: Console apparatus for information processing system

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 8. Document ID: US 5907688 A

L3: Entry 8 of 9

File: USPT

May 25, 1999

US-PAT-NO: 5907688

DOCUMENT-IDENTIFIER: US 5907688 A

TITLE: Smart arbitration for non-symmetric data streams

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 9. Document ID: US 5872934 A

L3: Entry 9 of 9

File: USPT

Feb 16, 1999

US-PAT-NO: 5872934

DOCUMENT-IDENTIFIER: US 5872934 A

TITLE: Method and apparatus for connecting several video distribution units to a serial data bus

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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Terms	Documents
L1 and L2	9

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US-PAT-NO: 6553389

DOCUMENT-IDENTIFIER: US 6553389 B1

TITLE: Resource availability determination mechanism for  
distributed data storage system

----- KWIC -----

Claims Text - CLTX (8):

8. The data storage system as claimed in claim 3 wherein: each of said plurality of data storage devices contains status information; and said coordinator requests and receives status information from each of said plurality of data storage devices in one partition, said coordinator: requests all of said plurality of data storage devices in said one partition to begin a new epoch, each of said plurality of data storage devices provides the most recent epoch number thereof and a list of data storage devices active in the most recent epoch, determines the maximum epoch number and the number of data storage devices active in that epoch, determines if more than half of the data storage devices that were active in the previous epoch to establish a quorum, sends out to all said plurality of data storage devices in said one partition a new epoch number, greater than the previous epoch number, and the list of data storage devices active in the new epoch, and determines that at least some of said plurality of data storage devices in said one partition collectively contain the contents of said virtual store.



US006553389B1

(12) **United States Patent**  
Golding et al.

(10) Patent No.: **US 6,553,389 B1**  
(45) Date of Patent: **Apr. 22, 2003**

(54) **RESOURCE AVAILABILITY  
DETERMINATION MECHANISM FOR  
DISTRIBUTED DATA STORAGE SYSTEM**

(75) Inventors: **Richard Andrew Golding, San Francisco, CA (US); Elizabeth Lynn Borowsky, Brookline, MA (US)**

(73) Assignee: **Hewlett-Packard Company, Palo Alto, CA (US)**

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/394,238**

(22) Filed: **Sep. 13, 1999**

(51) Int. Cl.<sup>7</sup> ..... **G06F 17/30**

(52) U.S. Cl. .... **707/202; 707/205; 707/204;  
707/200; 707/10; 709/221**

(58) Field of Search ..... **714/6; 711/162,  
711/113, 114; 707/202, 7, 10, 200, 204,  
205; 709/221, 220, 248**

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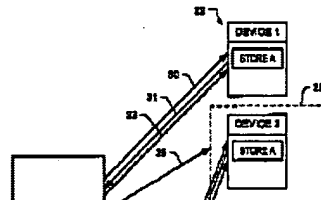
\* cited by examiner

Primary Examiner—Jean M. Corrieus

(57) **ABSTRACT**

A distributed data storage system is provided with a mechanism for determining data storage resource availability during data system failures. When a partition occurs, a coordinator requests all reachable replicas to begin a new epoch and each replica responds with its most recent epoch number and the list of replicas that it believes were active in that epoch. From the responses, the coordinator finds the maximum epoch number and the list of replicas in that epoch is taken as the list from which a quorum must be drawn. The coordinator establishes a quorum when, for each byte in the virtual store, the coordinator receives responses from more than half of the replicas for that byte. The coordinator then determines resource availability and sends out a message to all the reachable replicas with a new epoch number greater than the previous epoch number and the list of replicas active in this new epoch. The replicas receive this message, record the epoch number and the list of replicas, and proceed.

**20 Claims, 4 Drawing Sheets**



US-PAT-NO: 4199662

DOCUMENT-IDENTIFIER: US 4199662 A

TITLE: Hybrid control of time division multiplexing

----- KWIC -----

Claims Text - CLTX (30):

(c) sequentially transmitting status information from said plurality of remote terminals in response to said status request command signals;

Claims Text - CLTX (40):

(c) sequentially transmitting status information from said plurality of remote terminals in response to said status request command signal;

# United States Patent [19]

Lowe, Jr.

[11] 4,199,662

[43] Apr. 22, 1980

[54] HYBRID CONTROL OF TIME DIVISION MULTIPLEXING

[76] Inventor: Charles S. Lowe, Jr., 809 Welcome Ct., Burnsville, Minn. 55337

[21] Appl. No.: 925,377

[22] Filed: Jul. 17, 1978

[51] Int. Cl.: H04J 3/08; H04J 3/12; H04J 6/00

[52] U.S. Cl.: 370/83; 370/86; 370/91

[58] Field of Search: 179/15 AL, 15 BA, 15 BS, 179/15 BV

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Primary Examiner—David L. Stewart  
Attorney, Agent, or Firm—Merchant, Gould, Smith, Edell, Welter & Schmidt

## [57] ABSTRACT

A hybrid multiplexing method and communications system for controlling transmission of information between a plurality of remote terminals and a shared central facility over a common communications channel. The remote terminals are synchronously polled to ascertain whether or not the remote terminals desire access to the central facility. Asynchronous polling is utilized to establish communication between the central unit and the remote terminals desiring access to the central unit.

12 Claims, 13 Drawing Figures

